

WHAT IS CLAIMED IS:

1. A method of generating a feasible schedule for n jobs given a duration and a revisit time for each job, comprising:

determining whether it is impossible to generate a feasible schedule;

5 determining whether a round robin schedule is possible;

calculating theoretical probabilities;

calculating actual probabilities;

creating a potential schedule based on the theoretical probabilities and the actual probabilities; and

10 searching for a feasible schedule from the potential schedule.

2. The method of claim 1, wherein determining whether it is impossible to

generate a feasible schedule comprises determining whether $\sum_{i=1}^n \frac{\tau_i}{\tau_i + \mu_i} > 1$ is

satisfied.

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3. The method of claim 1, wherein determining whether a

round robin schedule is possible comprises determining whether $\sum_{i \neq i}^n \tau_i \leq u_i$ is

satisfied.

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4. The method of claim 1, wherein calculating theoretical probabilities comprises

selecting a $z_i \geq \frac{\tau_i}{\tau_i + k \cdot u_i}$, $i = 1, \dots, n$, such that $\sum_{i=1}^n \frac{\tau_i}{\tau_i + \mu_i} = 1$.

5. The method of claim 4, wherein selecting the $z_i \geq \frac{\tau_i}{\tau_i + k \cdot u_i}$, $i = 1, \dots, n$, such

that $\sum_{i=1}^n \frac{\tau_i}{\tau_i + \mu_i} = 1$ comprises one of $z_i = \frac{\tau_i(\tau_i + u_i)^{-1}}{\sum_{j=1}^n \frac{\tau_j}{\tau_j + u_i}}$ or $z_i = \frac{1}{\tau_i + k \cdot u_i}$ with k

independent of $i = 1, \dots, n$.

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6. The method of claim 4, wherein calculating theoretical probabilities further

comprises calculating a $q_i = \frac{z_i}{\sum_{j=1}^n z_j}$, $i = 1, \dots, n$.

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7. The method of claim 1, wherein calculating the actual probabilities comprises

calculating $\frac{N_i}{N}$, $i = 1, \dots, n$.

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8. The method of claim 1, wherein creating a potential schedule based on the theoretical probabilities and the actual probabilities comprises storing results from $j = \text{argmax}_{i=1, \dots, n} d_i$, wherein d_i is the difference between the theoretical probabilities and the actual probabilities.

9. A machine-readable medium having instructions stored thereon for execution by a processor to perform a method of generating a feasible schedule, comprising:
determining whether it is impossible to generate a feasible schedule;

determining whether a round robin schedule is possible;

calculating theoretical probabilities;

calculating actual probabilities;

creating a potential schedule based on the theoretical probabilities and the
5 actual probabilities; and

searching for a feasible schedule from the potential schedule.

10. A system of generating a feasible schedule comprising:

means for calculating theoretical probabilities;

10 means for calculating actual probabilities;

means for creating a potential schedule based on the theoretical
probabilities and the actual probabilities; and

means for searching for a feasible schedule from the potential schedule.